

Exhibit 30

Emotional Impact

Other characteristics of events that affect our ability to recall them are how important they are and how much emotional impact they have. For example, in a monumental study of his own memory, Wagenaar (1986) rated the pleasantness of the events as he recorded them in a diary he maintained for a six-year period. The more intense the rating, the more likely he was to recall the event later on. In addition, he recalled pleasant events better than ones he rated as neutral or unpleasant. Similar findings were reported by Thompson and his colleagues (1996), who had subjects keep diaries recording the events they had experienced. Both pleasant and unpleasant events were better remembered than neutral ones, and among events that aroused feelings in one direction or the other, pleasant events were better remembered than unpleasant ones (see also Holmes, 1970).

Similar results are found in survey studies that examine the accuracy of survey reports by comparing them to records concerning the same events. Important events tend to be reported more accurately than unimportant ones. For example, longer hospital stays are more likely to be reported in a survey than shorter stays (Cannell et al., 1981); costly home repairs are more likely to be reported than inexpensive ones (Neter & Waksberg, 1964); and major purchases are more likely to be reported than minor ones (Sudman & Bradburn, 1973).

The simplest explanation for these findings is that we are less likely to forget important events than unimportant ones; we are more likely to notice them in the first place and to discuss and think about them afterward. Thus, important events have the advantages of both more elaborate initial encoding and greater rehearsal after the fact; both factors probably contribute to their greater retrievability.

3.3.3 Recall as a Function of Characteristics of the Question

The designers of a survey questionnaire can't determine how distinctive or important an event is to the respondents or when the event took place. As a result, if it's necessary to collect information on *all* hospital stays, the best thing that can be done is to shorten the reference period to minimize the number of stays that are forgotten. There are, however, characteristics of the survey questions that can affect the retrieval process, and these can be varied to promote more accurate recall in surveys.

Recall Order

Surveys usually give respondents the option of recalling the target events in any order they choose. Respondents could therefore attempt to retrieve events in the order in which they actually occurred, in reverse chronological order, or in some sequence unrelated to event time. Studies of verbal learning with lists of unrelated items suggest that chronological order produces better recall for auditory material but that the reverse order produces better recall for visual material (Madigan, 1971). It seems likely, however, that chronological order is superior, even for visually presented information, when the items have an intrinsic connection that runs from the beginning to the end of the list. Recalling a sentence in reverse order is obviously a much more difficult task than recalling it in its natural order.

Somewhat surprisingly, however, memory for autobiographical information seems to be superior when subjects recall items in reverse order. Whitten and Leonard (1981) found better performance for reverse order when college subjects attempted to retrieve the names of their grade school and high school teachers. Correct recall of all teachers was more likely (and the time required to name them was less) when subjects worked backward from their 12th-grade teacher than when they worked forward from their 1st-grade teacher or when they recalled the teachers in an (experimenter-determined) random sequence. When subjects were allowed to skip over the names of teachers they could not recall, forward and backward order produced about the same number of correct responses; random order was significantly worse. Loftus and Fathi (1985) also found better memory for the contents of psychology exams when subjects recalled the exams in backward order (from the last exam in the quarter to the first) than in forward order (first exam to last).

It has proved difficult, though, to obtain this advantage for backward recall in surveys. For reports of health-care visits, Loftus et al. (1992) were unable to find a significant difference for backward versus forward versus free recall, and Jobe et al. (1990) found a small advantage for free over forward and backward orders. It seems quite possible that the effectiveness of these recall strategies depends on the type of event in question. For instance, it may be that health-care visits exhibit forward dependencies, especially when an initial treatment necessitates follow-up exams, and these dependencies may work against a backward memory search. So far, however, no work has been done to explore potential interactions between retrieval order and event types.